

REMARKS

Summary of Amendments

1. Claims 1-8 were originally presented in this application. Claim 1 was amended in Applicants' reply, dated November 30, 2005, to the first action on the merits. In this paper, claim 1 has been amended for editorial clarity, and claims 9 and 10 have been added. No claims have been canceled. Claims 1-10 remain pending.

Claim Rejections - 35 U.S.C. § 103

2. Claims 1-8 stand rejected under 35 USC 103(a) as being unpatentable over Satoh et al. (U.S. Pat. No. 6,761,771) in view of Divakar et al. (U.S. Pat. App. No. 2002/0185487) and Storbeck (U.S. Pat. App. No. 2002/0023590). In particular, the Examiner states

In view of Divakar, it would have been obvious to one of ordinary skill in the art to adapt Satoh with the shaft with a cylindrical shape since such a cylindrical shaft is well known in the art to adequately support a susceptor, and further adapt Satoh with the claimed concavity as taught in Storbeck to more securely support a wafer on the wafer heating surface.

3. Applicants respectfully traverse this rejection. Independent claim 1, as amended in Applicants' November 30, 2005 reply and as currently further revised for editorial clarity, recites: "the shaft is disposed to warp the substrate in a controlled manner so as to create at least a portion of said concavity in the wafer-carrying face." The shaft as thus claimed is disposed to warp the substrate so as to impart concavity to its wafer-carrying surface. There is no such disclosure in any of the prior art references. While Satoh discloses a cylindrical shaft (base 29) supporting a concave substrate, there is no teaching, disclosure, or suggestion of the shaft being disposed to warp the substrate in a controlled manner as recited in claim 1 of the present application. Nor is there any suggestion of such a limitation in Divakar or Storbeck. Moreover, the Examiner never even addresses this limitation in his rejection. Accordingly, Applicants submit that claim 1 is allowable over the prior art of record and requests that the Examiner withdraw his rejection.
4. In a July 25, 2006, telephonic interview, a summary of which accompanies this paper, the Examiner asserted that the claim 1 element beginning: "the shaft disposed to warp the substrate in a controlled manner..." is inherent in the Satoh reference. The Examiner further suggested that the force of gravity acting on the substrate (ceramic heater 3) in Satoh would inherently meet Applicants' claim 1

limitation, since the Satoh base 29 is disposed to move the ceramic heater up and down (and therefore the substrate is only supported by the base). This suggestion is respectfully contested for at least two reasons. First, it is highly unlikely that the mere weight of the substrate on the shaft would flex the substrate sufficiently to contribute concavity to the substrate. And second, even if the weight of the substrate is sufficient, it would *reduce the concavity of the substrate* or render it convex. Thus, even if the Examiner's assertion about the effect of gravity in the Satoh apparatus is correct, such a result from the Satoh configuration does not anticipate claim 1. Again, claim 1 now recites: "the shaft is disposed to warp the substrate in a controlled manner so as to create at least a portion of said concavity in the wafer-carrying face." It is not possible for the shaft (base 29) in Satoh to cause the concavity ("create at least a portion of said concavity" as recited in claim 1). Rather, if the Examiner is correct, base 29 must reduce the concavity of the substrate. Applicant submits that in particular this inventive feature recited in claim 1 is not inherent to, nor taught or suggested by, the Satoh disclosure, and that therefore claim 1 is allowable over the prior art of record.

5. Applicant presents new claims 9 and 10 for consideration in this paper. New independent claim 9 is supported by original claim 1 as well as by Table I of the original specification. New claim 10 (which depends from claim 9) is also supported by Table I. No new matter has been added. Applicant respectfully submits that new claim 9 is patentable over the prior art of record, in that there is nothing in the prior art of record that teaches, discloses, or even suggests, an arrest concavity in a susceptor substrate formed to flex at 500°C such that the susceptor wafer-carrying face assumes a curvature of from -0.2 mm to +0.45 mm per 300 mm length. In particular, Satoh is silent as to any heat-induced conformational change in the concave portion 15 of the Satoh ceramic heater 3, only expressly teaching the technical necessity of maintaining the "Distance A" between a susceptor-carried wafer and the center of the wafer-supporting surface.
6. Applicant respectfully submits that independent claims 1 and 9 are allowable over the prior art of record. Claims 1 and 9 being allowable, it follows that dependent claims 2-8 and 10 must also be allowable since these claims carry with them all of the elements of the independent claims to which they ultimately refer.

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Amendment dated August 17, 2006
Reply to Office action of February 17, 2006

Accordingly, Applicants courteously urge that this application is in condition for allowance. Reconsideration and withdrawal of the rejections is requested. Favorable action by the Examiner at an early date is solicited.

Respectfully submitted,

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/James Judge/

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